

PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : LODGE ET AL.
SERIAL NO. : 10/078,024
FILED : FEBRUARY 15, 2002
TITLE : DECORATION METHOD USING THERMOCHROMIC INK
EXAMINER : CROCKFORD
GROUP ART UNIT : 1762

OFFICIAL

DECLARATION UNDER C.F.R. 1.132

Honorable Commissioner for Patents
and Trademarks
Washington, D.C. 20231

I, ALAN REGINALD JONES, a British subject of 112 Dovehouse Close, Eynsham, Witney,
Oxon, OX29 4EY, declare:-

1. I am a Technical Sales Executive for Neogene Paints, Neogene Works, 14 Caxton Way, Watford Business Park, Watford, WK18 8UJ, a position I have held for the last three and a half years. Prior to that I held the position of Technical Sales Director at Pearl Paints Ltd. I make this declaration from my own personal knowledge.
2. I have made an earlier declaration in this matter and I have now been asked to provide further information regarding the differences between thermochromic inks and thermochromic paints.
3. Firstly I wish to reaffirm the statements in my earlier declaration dated 25 March 2002. In particular, I would like to make it clear that we are dealing here with

thermochr mic ink and paints. These are significantly different to normal inks and paints because the thermochromic pigments used are much less stable than conventional pigments and have to be encapsulated in a resin to provide useable formulations. Thermochromic inks and paints are therefore not the same as everyday inks and paints and different distinctions apply.

4. The manufacture and formulation of thermochromic pigments is a highly specialised field. There are only a few companies around the world who manufacture and formulate these specialised pigments. When despatched by the manufacturer these products are clearly labelled "ink" or "paint" and they are, of necessity, accompanied by the relevant technical data sheets. Thus the user will be fully aware of which product they are using, be it a thermochromic ink or thermochromic paint as a result of the product labelling and data sheets associated with each individual product.
5. Even if such a product was not clearly labelled and/or the data sheet not available, it would be a straightforward matter to determine if one was dealing with a thermochromic ink or a thermochromic paint. The consistency of the material in question is the first guide. Thermochromic inks, both aqueous and solvent based, take the form of thick creamy or paste-like slurries. These relatively viscous formulations are a pre-requisite for an ink to be used in a variety of printing processes. In contrast, thermochromic paints tend to be less viscous as they have been formulated specifically for spray or brush application.
6. Thus thermochromic inks tend to have a viscosity in the order of 60 poise as measured using a Brookfield viscometer at 25°C with spindle 4 speed 20. By contrast thermochromic paints typically have a viscosity in the order of 3 poise

under the same conditions. An operator would therefore have no difficulty in distinguishing a thermochromic ink from a thermochromic paint in terms of viscosity.

7. The other property of thermochromic inks which is easily tested is their ability to adhere to glazed, ceramic surfaces. Neither water-based, nor solvent-based thermochromic inks in their normal state as supplied by the manufacturer will adhere to glazed ceramic surfaces. This can be easily tested for by applying the ink directly to the surface and allowing it to dry. If the colour can be removed by rubbing the surface with a dry cloth, this would indicate one is dealing with an ink.
8. It will therefore be appreciated that anyone working in this specialist area will be aware from the labelling, literature or technical data sheets associated with the thermochromic product they are using if it is an ink or a paint. Even in the unlikely event that this literature and labelling is missing there are simple tests they can carry out to identify if the thermochromic product is an ink or a paint.

The undersigned, declares further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 30th October, 2003 Signed: AR Jan